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FLOOD INSURANCE STUDY

ORIGINAL

COMPLETED

CITY OF PORT WENTWORTH, GEORGIA

CHATHAM COUNTY

MAY 19, 1987

Federal Emergency Management Agency

COMMUNITY NUMBER - 135162

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NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program (NFIP) have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

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FLOOD INSURANCE STUDY

CITY OF PORT WENTWORTH,
CHATHAM COUNTY,
GEORGIA

1.0 INTRODUCTION

1.1 Purpose of Study

The purpose of this Type 19 Flood Insurance Study is to investigate the existence and severity of flood hazards in the City of Port Wentworth, Chatham County, Georgia, and to aid in the administration of the Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. Initial use of this information will be to revise the Flood Insurance Rate Map developed from data presented in the Type 15 Flood Insurance Study. Further use of the information will be made by local and regional planners in their efforts to promote sound land use and flood plain management. Minimum flood plain management requirements for participation in the National Flood Insurance Program are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

In some states or communities, flood plain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the state (or other jurisdictional agency) will be able to explain them.

This Flood Insurance Study was prepared by compiling existing hydrologic and hydraulic technical and scientific data prepared by the Federal Emergency Management Agency (FEMA) for purposes of the National Flood Insurance Program. The data were identified as the best available at the time of compilation of this Flood Insurance Study and should depict the general conditions of the flooding sources with relative accuracy. FEMA performed a cursory review and accepted the data as valid for purposes of this Flood Insurance Study and the National Flood Insurance Program. However, if better information is known to exist or has been developed since the date of this report, the information should be immediately forwarded to the Natural and Technological Hazards Division, Federal Emergency Management Agency, Atlanta, Georgia for consideration for revision of this study.

1.2 Authority and Acknowledgments

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this study were obtained from the Type 19 and Type 15 Flood Insurance Studies for Chatham County, Unincorporated Areas, Georgia (References 1 and 2).

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1.3 Coordination

On November 19, 1985, the results of this Flood Insurance Study were reviewed and accepted at a final coordination meeting attended by representatives of the community and FEMA.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the incorporated area of the City of Port Wentworth, Chatham County, Georgia. The area of study is shown on the Vicinity Map (Figure 1).

The areas studied by detailed methods were selected based upon the extent and validity of available existing hydrologic and hydraulic data. Flooding caused by overflow of the Savannah River was studied in detail within the community.

A detailed coastal flooding analysis was performed for the City of Port Wentworth, where the flooding source is the Atlantic Ocean.

2.2 Community Description

The City of Port Wentworth is located in northern Chatham County in eastern Georgia, about 10 miles northwest of Savannah. Port Wentworth is bordered mostly by Chatham County with areas contiguous to the City of Garden City to the south. The 1980 population of the City of Port Wentworth was reported to be 3,947 (Reference 3).

The mean temperatures in Chatham County range from a low of 50 degrees Fahrenheit (F.) in January to a high of 75 degrees F. in July. Average annual rainfall is 48 inches, with the summer months receiving the most precipitation. Natural vegetation consists mostly of southern mixed forest, made up of pine, gum, oak, and cypress trees (Reference 4).

2.3 Principal Flood Problems

Port Wentworth is subject to flooding caused by hurricanes and tropical storms. Major storms and hurricanes caused flooding in 1871, 1881, 1885, 1893, 1896, 1898, 1911, 1940, 1944, 1947, 1952, 1959, and 1979 (References 5, 6, and 7). The highest surges occurred during the hurricanes of 1881 and 1893, which caused flood heights up to 16 and 19 feet mean sea level (msl), respectively, in Savannah Beach (References 5 and 6).

The primary factors contributing to flooding in Chatham County are its openness to Atlantic Ocean surges and unfavorable bathymetry extending offshore. Many of the large streams near the coast have wide mouths and are bordered by extensive areas of low marsh. In addition, the terrain at the coast is generally too low to provide an effective barrier. The offshore ocean depths are shallow for great distances, generating a high Atlantic Ocean surge.

FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF PORT WENTWORTH, GA

(CHATHAM CO.)

APPROXIMATE SCALE

4 0 4 8 12 MILES

VICINITY MAP

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A storm history of Chatham County and its vicinity during the past 100 years is summarized below. Damage figures are determined in dollar values at the time of the storm. No attempt has been made to adjust these figures to current dollar values.

August 16-19, 1871

A tropical cyclone moved overland from Florida, causing damage along the Florida, Georgia, and South Carolina coasts. At Savannah, Georgia, the wind speed was 72 miles per hour (mph) from the north.

August 21-29, 1881

This storm reached hurricane intensity northeast of Puerto Rico on August 22. The lowest barometric pressure reading was 29.08 inches. The storm center entered the coast south of Savannah on August 27. Damage in Savannah was estimated at $1.5 million. Approximately 335 people were killed in and near the city. Nearly 100 vessels were wrecked along the Atlantic coast. Damage was very heavy on Tybee Island and other coastal islands near Savannah. The highest tide observed was estimated to reach an elevation of 16.5 feet msl at Savannah Beach, approximating a flood of at least a 100-year magnitude.

August 21-26, 1885

This storm moved inland north of Savannah on August 25. It caused heavy damage in North and South Carolina. Total damage was estimated at about $1.7 million. Damage inflicted by this storm in Georgia was relatively light.

August 15-September 2, 1893

This major hurricane, which originated near the Cape Verde Islands, reached the Georgia coast on August 27. It was accompanied by a tremendous storm wave that submerged the islands along the Georgia and South Carolina coasts. Between 2,000 and 2,500 people lost their lives on the coastal islands and in the lowland between Tybee Island and Charleston. Property damage along the Atlantic coast was estimated at $10 million. Nearly every building on Tybee Island was damaged and the railroad to the island was wrecked. The highest tide known to have occurred in the county was estimated to have a range of 17.0 to 19.5 feet msl at Savannah Beach.

September 22-29, 1896

This hurricane entered the northwestern Florida coast near St. Mark. Its center passed through southeastern Georgia and South Carolina on September 28 and 29. Hurricane winds persisted when the hurricane moved inland. Savannah recorded maximum winds of 75 mph. Damage in Savannah was estimated at $1 million. Damage was also heavy on Tybee Island and over much of southeastern Georgia. Because the damaging hurricane wind was of a short duration near Chatham County and occurred during a low tide period, destruction caused by storm surge was relatively light compared with the hurricanes of 1881 and 1893.

August 30-September 1, 1898

This hurricane entered the Georgia-South Carolina coast on August 30. Its center passed over Tybee Island. Winds on Tybee Island were estimated at 100 mph. The storm surges were not high enough to cause extensive damage. However, the hurricane was accompanied by very heavy rain, and the countryside was flooded for 100 miles around Savannah. Most roads and railroads were impassable because of high water.

August 23-30, 1911

The center of this hurricane entered the coast between Savannah and Charleston on August 28. A maximum wind of 88 mph from the northwest was recorded at Savannah. Damage in the Savannah area was remarkably low; however, property on Tybee Island was heavily damaged. Excessive rains accompanied the storm and caused considerable damage to roads, crops, and other property throughout southern Georgia.

August 5-15, 1940

This was the first hurricane to affect Georgia since August 1911. Its center entered the South Carolina coast to the north of Savannah on August 11. The wind at Savannah reached 73 mph, and damage in the Savannah area was estimated at $850,000. The highest tide observed at Beaufort, South Carolina, was estimated to be 12.4 feet msl. High tides of 7.4 and 6.4 feet msl were recorded at Fort Pulaski, Georgia, and at Fort Jackson, Savannah Harbor, Georgia, respectively.

October 12-23, 1944

This hurricane entered the gulf coast of Florida and moved northeastward across the peninsula. Its center crossed the east coast near Jacksonville, Florida, in a north-northeast direction and moved inland again near Savannah. The hurricane was downgraded to a tropical storm by the time it reached Georgia. The highest tide, 5.9 feet msl along the Georgia coast, was observed at Fort Pulaski, near the mouth of the Savannah River. The estimated damage in Georgia was $500,000.

October 9-16, 1947

The center of this hurricane entered the Georgia coast just south of Savannah on October 15. At Savannah, the maximum wind speed was 77 mph, and the lowest barometric pressure was 28.77 inches. Heavy losses were sustained at Savannah and Savannah Beach, where more than 1,500 buildings were substantially damaged. Total damage in the coastal area was estimated at more than $2 million. The highest tide, 7.9 feet msl, was recorded at Fort Jackson.

August 18-September 2, 1952 (Hurricane Able)

Hurricane Able moved inland on August 30. Its center passed near Beaufort with maximum winds of approximately 100 mph. Damage from this storm was estimated at about $2.8 million.

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September 20-October 2, 1959 (Hurricane Gracie)

Hurricane Gracie moved inland on September 29. Its center passed over the South Carolina coast near Beaufort. Wind gusts of hurricane force were felt in the Savannah area, and damage was inflicted over the upper Georgia coastal area. The total damage inflicted by the storm was estimated at $14 million with damage in Georgia estimated at more than $500,000. High water marks, which were reported near Edisto Beach, South Carolina, ranged from 7.3 to 11.9 feet msl.

August 25-September 7, 1979 (Hurricane David)

Hurricane David was the most intense storm of the century to affect the islands of the eastern Carribean. However, the storm was not a major hurricane when it struck the United States. David struck just north of Palm Beach, Florida on September 3 and made a second landfall about 24 hours later near Savannah Beach. In the United States, David was responsible for five deaths and about $300 million in damages. The death toll and damage were much greater in Dominica, Cuba and the Dominican Republic (Reference 7).

2.4 Flood Protection Measures

Due to the parameter of this existing data study, information regarding flood protection measures in the community is obtained only from the source reports (References 1 and 2) and any other readily available sources. None of these sources provided information relating to the flood protection measures in the community.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for flood plain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10, 2, 1, and 0.2 percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1 percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for each riverine flooding source studied in detail affecting the community. Analyses were also carried out to establish the peak elevation-frequency relationships for each coastal flooding source studied in detail.

Hydrologic analyses were obtained from the Type 15 Flood Insurance Study for Chatham County (Reference 2).

Inundation from the Atlantic Ocean caused by passage of storms (storm surge) was determined by the joint probability method (Reference 8). The storm populations were described by probability distributions of 5 parameters that influence surge heights. These were central pressure depression (which measures the intensity of the storm), radius to maximum winds, forward speed of the storm, shoreline crossing point, and crossing angle. These characteristics were described statistically based on an analysis of observed storms in the vicinity of the City of Port Wentworth. Primary sources of data for this were "Tropical Cyclone Card Deck 993" (Reference 9), "Tropical Cyclones of the North Atlantic Ocean, 1871-1980" (Reference 10), "Tropical Cyclones of the North Atlantic Ocean" (Reference 11), and "Some Climatological Characteristics of Hurricanes and Tropical Storms, Gulf and East Coasts of the United States" (Reference 12). A summary of the parameters used for the area is presented in Table 1, Parameter Values for Surge Elevations.

For areas subject to flooding directly from the Atlantic Ocean, the FEMA standard storm surge model was used to simulate the coastal surge generated by any chosen storm (that is, any combination of the 5 storm parameters defined previously). By performing such simulations for a large number of storms, each of known total probability, the frequency distribution of surge height can be established as a function of coastal location. These distributions incorporate the large-scale surge behavior, but do not include an analysis of the added effects associated with much finer scale wave phenomena, such as wave height or runup. As the final step in the calculations, the astronomic tide for the region is then statistically combined with the computed storm surge to yield recurrence intervals of total water level (Reference 13).

The storm-surge elevations for the 10-, 50-, 100-, and 500-year floods have been determined for the City of Port Wentworth and are shown in Table 2, Summary of Stillwater Elevations. The analyses reported herein reflect the stillwater elevations due to tidal and wind setup effects and include the contributions from wave action effects.

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the riverine sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

Hydraulic analyses were obtained from the Type 15 Flood Insurance Study for Chatham County (Reference 2).

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CENTRAL PRESSURE DEPRESSION (MILLIBARS)	83	67	53	42	33	23	9
ASSIGNED PROBABILITIES[1]	0.03	0.08	0.11	0.13	0.16	0.29	0.20
STORM RADIUS TO MAXIMUM WINDS (NAUTICAL MILES)	12			20			28
PROBABILITY[1]	0.24			0.26			0.50
FORWARD SPEED (KNOTS)	7			11			15
PROBABILITIES[1]	0.45			0.30			0.25
DIRECTION OF STORM PATH (DEGREES FROM TRUE NORTH)			327		301		
PROBABILITY[1]			0.51		0.49		
FREQUENCY OF STORM OCCURRENCE (STORM/NAUTICAL MILE/YEAR)	65[2] 0.00107		20[2] 0.0012		25[3] 0.00124		70[3] 0.00131

[1]AVERAGE OF DIFFERENT STORM TRACK LOCATIONS
[2]NAUTICAL MILES SOUTH OF GEORGIA-SOUTH CAROLINA BOUNDARY
[3]NAUTICAL MILES NORTH OF GEORGIA-SOUTH CAROLINA BOUNDARY

TABLE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF PORT WENTWORTH, GA

(CHATHAM CO.)

PARAMETER VALUES FOR SURGE ELEVATIONS

(ENTERING HURRICANES)

CENTRAL PRESSURE DEPRESSION (MILLIBARS)	83	67	53	42	33	23	9
ASSIGNED PROBABILITIES[1]	0.03	0.08	0.11	0.13	0.16	0.29	0.20
STORM RADIUS TO MAXIMUM WINDS (NAUTICAL MILES)	12			20			28
PROBABILITY[1]	0.24			0.26			0.50
FORWARD SPEED (KNOTS)	7			11			15
PROBABILITIES:[1]	0.32			0.30			0.38
DIRECTION OF STORM PATH[1] (DEGREES FROM TRUE NORTH)	35						
PROBABILITY[1]	1.0						
FREQUENCY OF STORM OCCURRENCE (STORM/NAUTICAL MILE/YEAR)	65[2] 0.0039[4] 0.0042[5]		20[2] 0.0045[4] 0.0048[5]		25[3] 0.0051[4] 0.0054[5]		70[3] 0.0058[4] 0.0061[5]

[1]AVERAGE OF DIFFERENT STORM TRACK LOCATIONS
[2]NAUTICAL MILES SOUTH OF GEORGIA-SOUTH CAROLINA BOUNDARY
[3]NAUTICAL MILES NORTH OF GEORGIA-SOUTH CAROLINA BOUNDARY
[4]15 NAUTICAL MILES OFFSHORE
[5]45 NAUTICAL MILES OFFHSORE

TABLE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF PORT WENTWORTH, GA

(CHATHAM CO.)

PARAMETER VALUES FOR SURGE ELEVATIONS

(ALONGSHORE HURRICANES)

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CENTRAL PRESSURE DEPRESSION (MILLIBARS)	83	67	53	42	33	23	9
ASSIGNED PROBABILITIES[1]	0.03	0.08	0.11	0.13	0.16	0.29	0.20
STORM RADIUS TO MAXIMUM WINDS (NAUTICAL MILES)	12			20			28
PROBABILITY[1]	0.24			0.26			0.50
FORWARD SPEED (KNOTS)	7						13
PROBABILITIES:[1]	0.45						0.55
DIRECTION OF STORM PATH[1] (DEGREES FROM TRUE NORTH)			54		94		
PROBABILITY[1]			0.75		0.25		
FREQUENCY OF STORM OCCURRENCE (STORM/NAUTICAL MILE/YEAR)	65[2] 0.0026		20[2] 0.0013		25[3] 0.00069		70[3] 0.00056

[1]AVERAGE OF DIFFERENT STORM TRACK LOCATIONS
[2]NAUTICAL MILES SOUTH OF GEORGIA-SOUTH CAROLINA BOUNDARY
[3]NAUTICAL MILES NORTH OF GEORGIA-SOUTH CAROLINA BOUNDARY

TABLE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF PORT WENTWORTH, GA

(CHATHAM CO.)

PARAMETER VALUES FOR SURGE ELEVATIONS

(EXITING HURRICANES)

FLOODING SOURCE AND LOCATION	TRANSECT	STILLWATER ELEVATION (FEET NGVD)			
		10% (10-YEAR)	2% (50-YEAR)	1% (100-YEAR)	0.2% (500-YEAR)
ATLANTIC OCEAN					
About 0.5 mile south of intersection of Grange Road and U.S. Route 17	N/A	10.0	11.3	12.0	13.5
From intersection of U.S. Route 17 and Grange Road to U.S. Route 17 over Savannah River	N/A	8.9	10.3	10.8	12.3

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF PORT WENTWORTH, GA

(CHATHAM CO.)

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN

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Flood profiles were drawn showing the computed water-surface elevations for floods of the selected recurrence intervals.

The hydraulic analyses for the riverine study are based only on the effects of unobstructed flow. The flood elevations shown on the profiles are, thus, considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

Hydraulic analyses, considering storm characteristics and the shoreline and bathymetric characteristics of the flooding sources studied, were carried out to provide estimates of the elevations of floods of the selected recurrence intervals along each of the shorelines.

The FEMA storm surge model was utilized to simulate the hydrodynamic behavior of the surge generated by the various synthetic storms. This model utilizes a grid pattern approximating the geographical features of the study area and the adjoining areas. Surges were computed utilizing grids of 8 nautical miles by 5 nautical miles and 6,000 feet by 6,000 feet, depending on the resolution required.

Underwater depths and land heights for the model grid systems were obtained from National Oceanic and Atmospheric Administration (NOAA) nautical charts (References 14 and 15), U.S. Geological Survey topographic maps (Reference 16), and aerial photogrammetry (Reference 17).

All elevations are referenced to the National Geodetic Vertical Datum of 1929.

4.0 FLOOD PLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program encourages state and local governments to adopt sound flood plain management programs. Therefore, each Flood Insurance Study produces maps designed to assist communities in developing flood plain management measures.

4.1 Flood Boundaries

To provide a national standard without regional discrimination, the 1 percent annual chance (100-year) flood has been adopted by FEMA as the base flood for flood plain management purposes. The 0.2 percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the 100- and 500-year flood plain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:24000 and a contour interval of 10 feet (Reference 18). For each coastal flooding source studied in detail, the 100- and 500-year flood plain boundaries have been delineated using topographic maps at a scale of 1:24000 with a contour interval of 10 feet (Reference 18).

Flood plain boundaries are indicated on the Flood Insurance Rate Map. On this map, the 100-year flood plain boundary corresponds to the boundary of the areas of special flood hazards (Zone A, numbered A zones, and numbered V zones) and the 500-year flood plain boundary corresponds to the boundary of areas of moderate flood hazards (Zone B). In cases where the 100- and 500-year flood plain boundaries are close together, only the 100-year flood plain boundary has been shown. Small areas within the flood plain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

4.2 Floodways

The floodway is the channel of a stream plus any adjacent flood plain areas that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights. No floodway was determined for the Savannah River.

5.0 INSURANCE APPLICATION

To establish actuarial insurance rates, data from the engineering study must be transformed into flood insurance criteria. This process includes the determination of reaches, Flood Hazard Factors, and flood insurance zone designations for each flooding source studied in detail affecting the City of Port Wentworth.

5.1 Reach Determinations

For riverine studies, reaches are defined as sections of flood plain that have relatively the same flood hazard, based on the weighted average difference in water-surface elevations between the 10- and 100-year floods. This difference may not have a variation greater than that indicated in the following table for more than 20 percent of the reach:

Average Difference Between 10- and 100-year Floods	Variation
Less than 2 feet	0.5 foot
2 to 7 feet	1.0 foot
7.1 to 12 feet	2.0 feet
More than 12 feet	3.0 feet

The locations of the reaches determined for the riverine flooding sources of the City of Port Wentworth are shown on the Flood Profiles and summarized in Table 3, Flood Insurance Zone Data.

In coastal areas, reaches are limited to the distance for which the 100-year flood elevation does not vary more than 1.0 foot. The location of these reaches are shown on the Flood Insurance Rate Map.

5.2 Flood Hazard Factors

The Flood Hazard Factor (FHF) is used to establish relationships between depth and frequency of flooding in any reach. This relationship is then used with depth-damage relationships for various classes of structures to establish actuarial insurance rate tables.

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The FHF for a riverine reach is the weighted average difference between the 10- and 100-year flood water-surface elevations rounded to the nearest 0.5 foot, multiplied by 10, and shown as a 3-digit code.

The FHF for areas subject only to storm surge flooding is the difference between the 10- and 100-year stillwater elevations rounded to the nearest 0.5 foot, multiplied by 10, and shown as a 3-digit code. For areas with wave heights less than 3 feet, the FHF is the weighted average difference between the 100-year wave crest elevation and the 10-year stillwater elevation. For areas with wave heights greater than 3 feet, the FHF is determined using the difference between the 10- and 100-year stillwater elevations multiplied by 1.55, then rounded to the nearest 0.5 foot, multiplied by 10, and shown as a 3-digit code.

For example, if the difference between elevations is 0.7 foot, the FHF is 005; if the difference is 1.4 feet, the FHF is 015; if the difference is 5.0 feet, the FHF is 050. When the difference is greater than 10.0 feet, it is rounded to the nearest whole foot.

5.3 Flood Insurance Zones

Flood insurance zones and zone numbers are assigned based on the type of flood hazard and the FHF, respectively. A unique zone number is associated with each possible FHF and varies from 1 for a FHF of 005 to a maximum of 30 for a FHF of 200 or greater.

Zones A4, A8:	Special Flood Hazard Areas inundated by the 100-year flood, with base flood elevations shown, and zones subdivided according to FHFs.
Zone B:	Areas between Special Flood Hazard Areas and the limits of the 500-year flood; areas that are protected from the 100- and 500-year floods by dike, levee, or other water control structure; areas subject to certain types of 100-year shallow flooding where depths are less than 1.0 foot; and, areas subject to 100-year flooding from sources with drainage areas of less than 1 square mile. Zone B is not subdivided.
Zone C:	Areas of minimal flooding; not subdivided.

Flood elevation differences, FHFs, flood insurance zones, and base flood elevations for each flooding source studied in detail in the community are shown in Table 3, Flood Insurance Zone Data, and Table 4, Coastal Flood Insurance Zone Data.

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION[3] (FEET NGVD)
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
SAVANNAH RIVER REACH 1	0005	−3.0	N/A	N/A	30	A6	VARIES—SEE MAP

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF PORT WENTWORTH, GA

(CHATHAM CO.)

FLOOD INSURANCE ZONE DATA

SAVANNAH RIVER

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FLOODING SOURCE	TRANSECT	PANEL[1]	ELEVATION DIFFERENCE[2,4] BETWEEN 1.0% (100-YEAR) FLOOD AND 10% (10-YEAR)	FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION[3,4] (FEET NGVD)
ATLANTIC OCEAN	N/A	0005	−2.0	020	A4	12
	N/A	0005	−1.9	020	A4	11

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE IN FEET
[3]ROUNDED TO NEAREST FOOT
[4]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[5]INCLUDES EFFECTS OF WAVE ACTION

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF PORT WENTWORTH, GA

(CHATHAM CO.)

COASTAL FLOOD INSURANCE ZONE DATA

ATLANTIC OCEAN

5.4 Flood Insurance Rate Map Description

The Flood Insurance Rate Map for the City of Port Wentworth is, for insurance purposes, the principal product of the Flood Insurance Study. This map contains the official delineation of flood insurance zones and base flood elevation lines. Base flood elevation lines for riverine flooding sources show the locations of the expected whole-foot water-surface elevations of the base (100-year) flood. For coastal flooding sources, the expected water-surface elevations of the base (100-year) flood are shown as a weighted average within zones. Each whole-foot elevation is delineated except where cartographic considerations require the combination of two or more elevation zones. The base flood elevations and zone numbers are used by insurance agents, in conjunction with structure elevations and characteristics, to assign actuarial insurance rates to structures and contents insured under the National Flood Insurance Program.

6.0 OTHER STUDIES

Several agencies have conducted previous studies for the entire coast of Georgia that were not compared to this Flood Insurance Study. In 1959, the U.S. Weather Bureau and the U.S. Army Corps of Engineers published a study of meteorological characteristics of hurricanes along the Atlantic and Gulf coasts of the United States (Reference 19).

This Flood Insurance Study matches the Type 19 Flood Insurance Study currently in progress for Chatham County (Reference 1) and the Type 19 Flood Insurance Study for the City of Garden City, Georgia (Reference 20). It does not match the Chatham County Type 15 Flood Insurance Study in the area affected by coastal flooding due to a newer methodology (Reference 2).

Due to its more detailed analysis, this Flood Insurance Study supersedes the previously published Flood Insurance Study for the City of Port Wentworth (Reference 21).

7.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting the Natural and Technological Hazards Division, Federal Emergency Management Agency, 1371 Peachtree Street, N.E., Suite 736, Atlanta, Georgia 30309.

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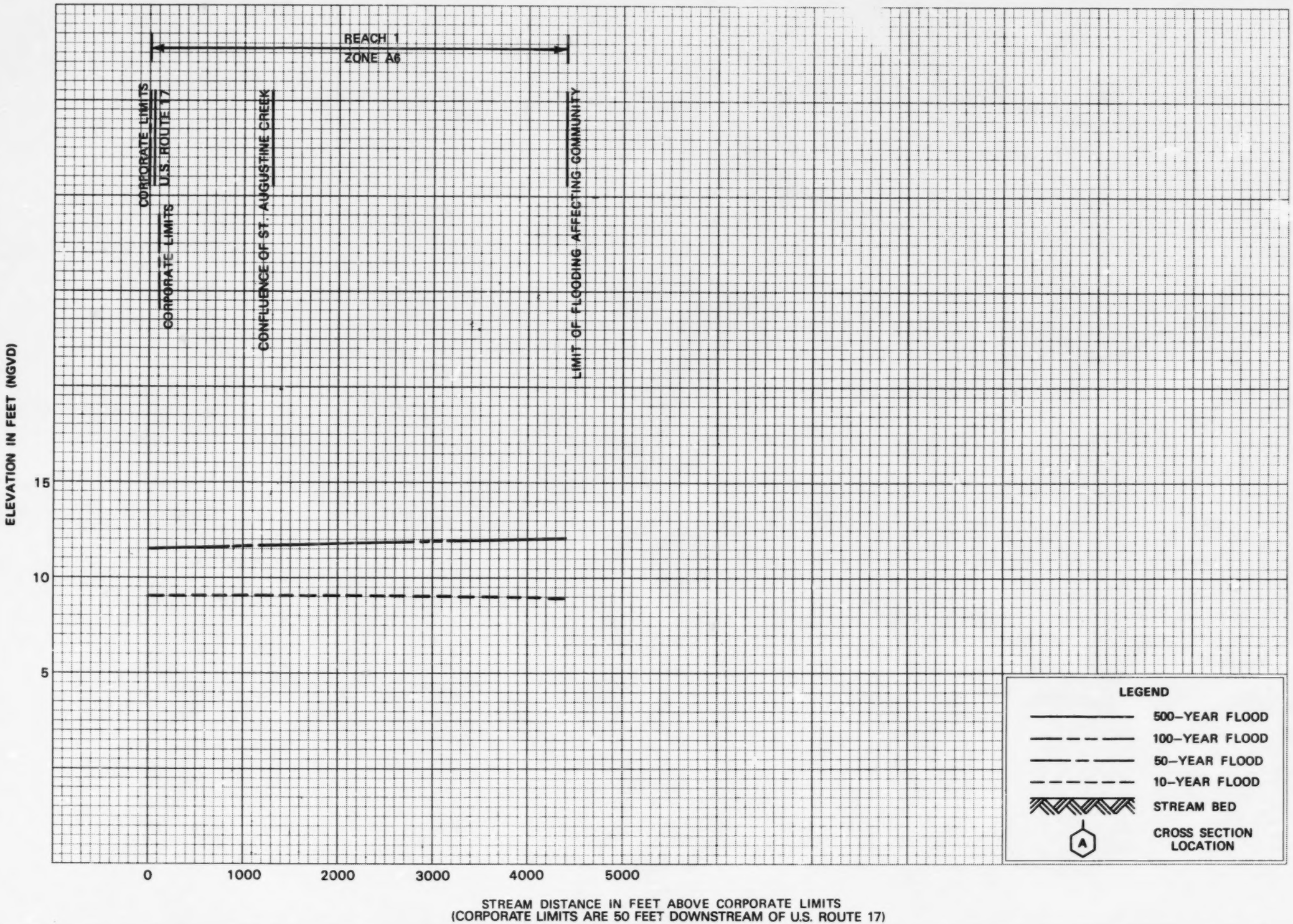

FLOOD PROFILES

SAVANNAH RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF PORT WENTWORTH, GA

(CHATHAM CO.)

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